

I CLAIM:-

1. A vacuum servo brake for a booster brake system for motor vehicles, having an input member, by means of which a valve arrangement may be acted upon at an input force (F) in order to connect a working chamber selectively to the outside or to a vacuum chamber which is separated from the working chamber by a working piston which may be brought into operative connection with a main cylinder via an output member in order to generate a braking pressure (p) and on which there is provided an elastomeric reaction member through which a reaction force dependent on the braking pressure may be applied to the input member, in which the output member has a stop which, in the event of a predetermined input force (F), comes into abutment against the working piston to alter an amplification ratio of the vacuum servo brake; wherein, arranged adjacent to the reaction member is at least one volume take-up means into which part of the reaction member may be displaced in the event of the vacuum servo brake being actuated, and wherein at least one of the stop and the working piston is of resilient construction in a region in which the stop abuts so that, when the stop abuts against the working piston, a relative movement between the output member and the working piston is still possible.

2. A vacuum servo brake according to claim 1, wherein at least one volume take-up means is provided on the output member.

3. A vacuum servo brake according to claim 2, wherein the output member has a shoulder which abuts against the reaction member by means of an end face and whereof the external peripheral face delimits an annular free space as the volume take-up means.

4. A vacuum servo brake according to claim 3, wherein the output member is provided between the end face and the external peripheral face of the shoulder with a ramp.

5. A vacuum servo brake according to claim 1, wherein at least one volume take-up means is provided on the reaction member.

6. A vacuum servo brake according to claim 5, wherein the reaction member is a disc which is substantially cylindrical and has an external periphery on which a peripheral recess is provided to form the volume take-up means.

7. A vacuum servo brake according to claim 6, wherein the peripheral recess has a semicircular cross-section.

8. A vacuum servo brake according to claim 5, wherein the reaction member is a disc which is bevelled in the shape of a truncated cone towards at least one of its end faces, in order to form an annular free space forming the volume take-up means.

9. A vacuum servo brake according to claim 1, wherein the reaction member is a disc which is constructed to be symmetrical about a notional plane parallel to its end faces.

10. A vacuum servo brake according to claim 1, wherein, when the vacuum servo brake is assembled, the stop is adjustable with respect to its axial position.

11. A vacuum servo brake according to claim 1, wherein the output member is a plunger which has a plunger shaft which may be brought into operative connection with the main cylinder, and a resiliently yieldable plunger plate abutting against the reaction member, wherein the stop is constructed as an annular collar mounted on the plunger plate.

12. A vacuum servo brake according to claim 1, wherein the output member is a plunger which has a plunger shaft which may be brought into operative connection with the main cylinder, and a plunger plate abutting against the reaction member, wherein the stop is constructed as a resiliently yieldable collar part secured to the plunger shaft.

13. A vacuum servo brake according to claim 12, wherein the collar part has a sleeve portion which is provided with an internal thread, is screwed onto an external thread made on the plunger shaft and away from which an annular, resiliently yieldable collar portion extends.

14. A vacuum servo brake according to claim 12, wherein the collar part is made from spring steel.

15. A vacuum servo brake according to claim 1, wherein the working piston has an insert part for receiving the reaction member, with the insert part also being constructed for the purpose of guiding the input member and the output member and having an abutment face for the stop.

16. A vacuum servo brake according to claim 1, wherein the reaction member is lubricated with a lubrication paste.

17. A vacuum servo brake according to claim 1, wherein the reaction member is provided with a lubricant coating.

18. A vacuum servo brake according to claim 1, wherein the reaction member has non-stick agent mixed with the elastomer of the reaction member.